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10/605,251	09/18/2003	Ilia Natanovich Geifman		2250

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EXAMINER

BRUNSMAN, DAVID M

ART UNIT PAPER NUMBER

1755

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/605,251

Applicant(s)

GEIFMAN ET AL.

Examiner

David M. Brunsman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,15-20 and 22-29 is/are pending in the application.
- 4a) Of the above claim(s) 1,3-8 and 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-17 and 22-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1,3-8,15-20 and 22-29 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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Claims 23 and 24 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Instant claim 23 fails to set forth any standard that one of ordinary skill in the art may use to determine if a noise spectrum is "comparable" to a Gunn oscillator. Claim 24 fails to set forth the characteristics necessary for a microwave generator to fall within the scope of a Gunn "*type*" (emphasis added).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-17 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 3931569 in view of UA 40178A.

US Patent 3931569 discloses an EPR spectrometer having a rectangular cavity with opposing wide and narrow sides (see figure 2), a permanent magnet having planar poles disposed parallel to and in close proximity to the wide sides (see figure 1, reference number 15), a sample hole perpendicular through the a narrow side of the cavity (see figure 1, line 12), a radio frequency generator (figure 1, reference 20), two connection wires inserted through holes perpendicular to the narrow sides of cavity on opposite sides of the sample hole (figure 1, follow reference numbers 18 and 19). The EPR spectrometer describes in figure 1 includes a microwave generator consisting of a Gunn oscillator (22), a detecting diode (38) and a balanced mixing means comprising a homodyne bridge (23) including waveguides for branching microwave energy to the resonator, from the resonator to the detector and, from the branching means to the detector. See column 5, lines 23-35.

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The difference between this patent and the instant claims is the lack of a ferroelectric single crystal resonator with a through hole coaxial to the sample hole. UA 40178A, as described in the instant specification, teaches the additional of a  $\text{KLiTaO}_3$  ferroelectric single crystal resonator having a through hole coaxial to the sample hole (see figure 1) in order to reduce the background signal and strengthen the crystal lattice. The resonator having a shape substantially symmetrical relative to three mutually perpendicular plane and axes with the through hole along on of said axes. The first paragraph of page 6 discloses lithium amounts of 0-3.8% are known (i.e.  $\text{K}_{0.962-1.0}\text{Li}_{0.038-0.0}\text{TaO}_3$ ). While the reference prefers and claims 0-0.1%, this reference does indicate higher amounts are useful. It would have been obvious to one of ordinary skill in the art to employ a  $\text{KLiTaO}_3$  ferroelectric single crystal resonator with a through hole coaxial to the sample hole because the reference teaches it would improve the performance of a spectrometer and the particular material employed by claim 16 is itself particularly useful.

Applicant's response filed 26 April 2005 and supplemental response filed 06 May 2005 have been carefully considered. The response and amendment with respect to the rejection of claim 16 under 112(2) is persuasive. The response with respect to the rejection under section 103 is addressed below.

1) The motivation to combine the references is clearly established in the rejection. "[A]  $\text{KLiTiO}_3$  ferroelectric single crystal resonator with a through hole coaxial to the sample hole ... would improve the performance of a spectrometer" (See page 3, lines 12-16 of the action).

2) The proposed combination would be operative. A reference need not be physically combinable. *In re Nievelt*, 179 USPQ 224; as long as the principle of operation is the same. See, *Ex parte Hantmann*, 186 USPQ 366 and *In re Ratti*, 123 USPQ 349. Selection of a single crystal of the appropriate size to fit within an existing spectrometer requires only the

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basic engineering knowledge available to one of ordinary skill in the art. A change in size of an article would have been obvious to one of ordinary skill in the art. *In re Rose*, 105 USPQ 237. The test of obviousness is what the combined teachings would have suggested to one of ordinary skill in the art. *Ex Parte Martin*, 215 USPQ 543.

3) The proposed combination includes each of the limitations of the instant claims. See, page 2, line 25 through page 3, line 3 and page 3, lines 6-10, of the previous office action. There is no indication in column 2, lines 18-20 of the primary reference that the device would not be portable. Furthermore, making a device portable would have been obvious to one of ordinary skill in the art. *In re Lindberg*, 93 USPQ 23.

4) The instant claims are not unobvious in view of new or unexpected results. Initially, the device of the primary reference appears to be portable. Secondly, portability is more a matter of degree than kind. For example, an entire single family house may be said to be "portable" as they are occasionally jacked up and moved. It is thus more a question of the desire and motivation of the mover than a property of the device. Thirdly, making a device portable would have been obvious to one of ordinary skill in the art. *In re Lindberg*, 93 USPQ 23. Finally, the characteristic of having "capabilities of high-end research spectrometers" remains undefined. How "high" is high? Which actions fall within the scope of "research"? How many of those capabilities must the device have. How "capable" must it be?

5) The combination of the references is proper and UA 40178A supplies any teaching missing from the primary reference. Firstly, while the primary reference discloses additional features of the resonant cavity it is still rectangular as pictured in the figures. Secondly, the planar poles of 3931569 remain "close" to the wide sides of the cavity. As shown in the reference they are at least closer than the width of the poles themselves. No limitation describing how "close" is "close" is recited in the instant claims. Thirdly, while the reference

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may recite structure different from the best mode envisioned by applicant, the location of the coils therein, is not excluded from the instant claims. Finally, the combination suggested includes every limitation of the instant claims, as explained above.

Applicant's response makes no further traverse of the requirement for restriction. This application contains claims 1, 3-8, 18-20 drawn to an invention nonelected with traverse in the response filed 17 December 2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Brunsman whose telephone number is 571-272-1365. The examiner can normally be reached on M, W, F, Sa; 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David M Brunzman  
Primary Examiner  
Art Unit 1755

DMB

A handwritten signature in black ink, appearing to read 'David M Brunzman', with a long horizontal flourish extending to the right.